

16th SETAC Europe LCA case studies symposium

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It is a pleasure and honor to present the summary from the 16th SETAC Europe Life Cycle Assessment (LCA) Case Studies Symposium, run in Poznań, Poland (1–2 February 2010), specially because for the first time in the history of the case studies symposia this symposium was organized in one of the Central and Eastern European countries and in our beautiful town.

Poznań is a city located in Western Poland, the capital of the Wielkopolska Province, halfway between Warsaw and Berlin. Founded at the turn of the eighth century, by the tenth century, the fortified settlement Poznań grew to become one of the main centers of early Poland. The city's showcase spot is its Old Market Square, dominated by the Renaissance Town Hall (Fig. 1). Now Poznań is the home to a population of some 600,000 inhabitants and is one of the Poland's major banking, business, and industrial centers. The city prides itself on Poznań International Fairs, which offer nearly 40 events each year. Poznań is also a major center of sport, with world famous regatta course Malta, on the lake located near the city center. But specific is the cultural and scientific role of the city in Poland. Poznań's opera house and philharmonie as well as the Polish best men's and boys' choirs and dance theaters and music and theater festivals and competitions form a unique landscape of different cultural activities. With a student population of 130,000, over 20 institutions of higher education, and nearly 50 research institutes, Poznań is among the four leading academic and research centers of Poland.

As we all know, in the beginning, LCA embraced just a few countries in Western Europe and America. Gradually, also other parts of Europe have joined the “LCA community,” including Central and Eastern Europe. By organizing the 16th Case Studies Symposium in Poland, we would like to highlight the research results of studies coming from this region and to make it possible to present the work within a scope of applications with varying complexity, subject matter, and region of origin. All these important issues have given rise to the theme of the meeting: “From simplified to advanced LCA.”

The research content of the meeting was divided into three main areas: policy and governance, resources, and simplified approaches. The first main area was largely devoted to the use of LCA at macrolevel: setting eco-taxes and green purchasing—highlighting ways in which knowledge generated by LCA may be useful at different policy levels, i.e., technology policy, broader sustainability policies, the use of LCA in strategic decision making, etc. The second main area—resources—mainly focused on natural resources and waste, with reference to the actions related to development of indicators for monitoring progress towards decoupling (waste management, resource extraction/mining inventories, LCA in agriculture sector and food production). The last group of issues included simplified approaches, thus covering, for instance, ecodesign approaches in conjunction with LCA, ecolabeling, and sectoral approaches.

More than 70 participants attended the symposium, often coming from distant countries (e.g., Japan, New Zealand). During the two seminar days, we enjoyed 33 oral presentations and 16 posters, grouped into seven sessions.

Session 1, devoted to policy and governance issues, focused mainly on the new, integrated methodology (LC-based), assessing the sustainability of various energy production options, including environmental, economic, and social aspects, as well as the application of LCA as a main tool for

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Fig. 1 The Renaissance Town Hall

sustainability technology assessment of forest management and harvesting, comparing different technological solutions, also taking into consideration specific local context.

Session 2, including the simplified approaches concerning labeling, highlighted that: labeling becomes more and more important in the wide variety of products; labels can improve the supply and create competition; existing standards allow and support the development of a comprehensive and accepted labeling approach; calibrating simplified schemes shows high quality and gives confidence in labeling. It was stated that labeling helps also within a company to communicate environmental issues and to stimulate a stepwise improvement across the company,

and support is given by the United Nation's Environment Program (UNEP) to allow labeling to be developed especially in developing countries, based on training and expert support.

Session 3—LCA in agriculture sector and food production—revealed detailed studies about LCA of different food products (beverages, daily food, fish) and technologies (cooling systems) and led to many very interesting conclusions, e.g., the optimal composition of typical plate, GHG emissions depending on transported food product, and the environmental impacts of the different fish-catching methods.

Session 4 embraced the matter of resources—waste management. The main attention was paid on waste treatment, especially waste water treatment and comparison of possibility of obtaining water from different sources, e.g., desalination vs. waste water treatment. LCA was also presented as a valuable tool for assessment of technological solutions for obtaining products (energy, water) from waste materials. The very interesting approach concerning the creation of a web tool for consumers to assess the environmental impacts of package waste using LCA was also presented.

Session 5, affecting the simplified approaches—ecodesign approaches in conjunction with LCA—included mainly the case studies concerning lightweight boards (strong influence of the cover layer), green roofs (impacts mainly due to conventional main structure), school desk (integration of LCA and ecodesign in order to create better product), and packaging industry (LCA often used as a strong toolbox in business processes) and showed the integration of LCA and C-Learn on the example of wood furniture short supply chains.

Session 6 regarded the resource extraction/mining inventories. The main attention was paid on the environmental analyses of conventional plastics from sugarcane and crude oil. Presentations highlighted the role of the UNEP initiatives: International Panel for Sustainable Resource Management, the environmental impacts of gold

Fig. 2 Poznan University of Technology Lecture and Conference Center, the site of the 16th SETAC Europe LCA Case Studies Symposium



mining from the point of view of UNEP International Mercury Treaty. The local conditions were also mentioned in the example of LCM as a tool for decision making in Polish copper mining producer and a Hungarian case study of oil industry products.

The last session focused on the simplified approaches—sectoral approaches—and included the case studies from New Zealand (developing carbon footprinting guidelines for forestry industry), Hungary (the combined environment–cost analysis of an innovative solar spot system), and Poland (LCA of energy technologies in Polish energy sector—clean coal technologies).

The site of the 16th SETAC Europe LCA Case Studies Symposium was Poznan University of Technology Lecture and Conference Center (Fig. 2). Poznan University of Technology, founded in 1919, belongs to the best technical universities in Poland. It is a member of CESAER, has nine faculties, and delivers education to some 20,000 students, studying on 24 fields of study.

We hope that the visit in Poland for some participants—as we have heard—for the first time was pleasant and fruitful and all enjoyed the Polish traditions, cuisine, and warm, friendly vibes, despite the cold winter weather during the symposium.